DOCUMENT RESUME

ED 260 982 SO 016 769

AUTHOR Bailin, Sharon
TITLE Creativity and Skill.
PUB DATE Aug 84
NOTE 20p.; Paper presented at the Harvard International Conference on Thinking (Cambridge, MA, August 19-23, 1984).
AVAILABLE FROM Lawrence Erlbaum Associates, Inc., Publishers, Suite 102. 365 Broadway, Hillsdale, NH 10742 ($5.00; 1-10 copies, $3.50).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Art Expression; Creative Development; *Creative Expression; Creative Thinking; *Creativity; Skill Analysis; *Skills

ABSTRACT

It is frequently maintained that creativity involves flexibility, spontaneity, and divergent thinking. Contrary to this commonly held notion, rules play a central role in creativity. For example, in art most work is not revolutionary but rather takes place within a framework of rules dictated by a tradition, a school, or a style. Skills, too, are part of the realm of creativity. Skills are not simply habits which, once learned, become automatic. True skill involves care, vigilance, and criticism. A skilled performance, for example, is one which can be adjusted to changing circumstances. Learning skills is in fact an important part of creativity. (LP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED260982

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Melvin Kongst

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CREATIVITY AND SKILL

by
Sharon Bailin

In: Bishop, J., Lockhead, J., and Perkins, D.N., (Eds). Thinking. New Jersey: Erlbaum Associates (in press).

Paper presented at the Harvard International Conference on Thinking (Cambridge, MA, August 19-23, 1984).

SP 016 769

CREATIVITY AND SKILL*

Sharon Bailin
York University

It is frequently maintained, particularly in contemporary educational circles, that creativity necessarily involves going beyond or breaking rules, and that this is, in fact, the defining characteristic of creativity. Theories such as these generally hold that creativity is an essentially free activity, and they tend to view rules as constraining and skills as inhibiting. Arthur Koestler (1964) offers an eloquent statement of this point of view:

> Matrices vary from fully automatized skills to those with a high degree of plasticity; but even the latter are controlled by rules of the game which function below the level of awareness. These silent codes can be regarded as condensations of learning into habit. Habits are the indispensable core of stability and ordered behaviour; they also have a tendency to become mechanized and to reduce man to the status of a conditioned automaton. The creative act, by connecting previously unrelated dimensions of experience, enables him to attain to a higher level of mental evolution. It is an act of liberation -- the defeat of habit by originality.(p.96)

Because of the pervasiveness of this type of view, attempts to foster creativity have resulted in a pedagogical practice which places primary emphasis on encouraging flexibility,

*I would like to acknowledge the assistance of a fellowship from the Social Sciences and Humanities Research Council of Canada.

spontaneity, divergent thinking, and non-evaluative generation, while the skills and rules of specific disciplines are downgraded.

This view of the nature of creativity rests on two main assumptions. The first is that the spontaneity involved in creativity precludes skills and technique since these can operate only within the context of a pre-conceived end. The second assumption is that skills are simply habits. Both these assumptions can, I believe, be questioned. It will be argued here that skills and rules play a central role in creativity.

For purposes of this discussion, the examples will be drawn primarily from the arts. However, many of the points made are, I believe, applicable as well in other spheres in which creativity is manifested.

The first question to be addressed is whether creativity does indeed necessarily involve going beyond or breaking rules. Upon examination, this rule-breaking model does not seem to be an accurate characterization of all creative activity, at least in the arts. Most artistic work is not revolutionary, but rather takes place within the confines of a framework and is characterized by adherence to the rules dictated by a tradition, a school, a style, or a genre. The painter is directed by the rules of style and technique of the school of painting to which he adheres. The dancer's work is limited by the forms and conventions of

the relevant style of dance. The poet is subject to the traditional limitations of form and language. A classical ballet dancer, for example, will abide by the principles of classical ballet and try to master the techniques which are consequent to them. A poet composing a sonnet is constrained by the sonnet form and must produce a poem with fourteen lines, a specified metre, rhyme scheme, mood, division of ideas, and so on, in order for it to be evaluated as a successful sonnet. Indeed, one may contend that the genius of many outstanding artists lay, not in the fact that they innovated form, but rather that they followed the rules of their respective genres, but did this so well.

It is true, however, that not all artistic endeavour takes place even within the confines of strict adherence to a framework. Art develops and changes by the creation of novel works which depart from existing frameworks, and some rules of the framework are broken or repudiated in the process. This may involve the rejection of explicitly formulated doctrines or the unearthing of presuppositions which had been implicit, the recognition of them as conventions, and thus their rejection. An example of the first type might be the rejection on the part of many modern poets of some conventions of form such as traditional metre, rhyme, stanza form, punctuation, or capitalization. An example of the latter would be the recognition by absurdist dramatists of realism as a convention in theatre, and its subsequent rejection in favour of other possibilities. Thus

the very existence of works of art which depart from the rules of a framework and which, at least temporarily, are not completely subsumed under any existing framework demonstrates one way in which artistic creation is not totally determined by these sorts of rules. Artistic creation can involve breaking or going beyond rules.

Even in such cases, however, not all rules are broken. Indeed, in most cases, the vast majority of the rules remain intact, rules within the context of which the innovative element is meaningful. Artistic creation, even of a revolutionary sort, is usually less radical a departure from the existing framework than we tend to believe. Thus, I believe that the view of creativity in question underestimates the importance of adherence to the rules of specific frameworks in creative enterprises.

Let us, then, turn to an examination of other types of rules -- the internal rules governing thought and performance, namely competencies, techniques, and skill. Do such skills inhibit creativity?

There is a long-standing debate concerning this issue in the realm of art which harks back at least to the Greeks. On the one side, there is the view that the essence of art is inspiration, and that the artist does not really understand what he is doing or how he does it. Artistic creation is seen as essentially irrational. Plato, for example, has Socrates say in the Ion that:

> all the good poets who make epic poems use no art at all, but they are inspired and possessed when they utter all these beautiful poems... Not by art, then, they make their poetry, but by divine dispensation.(533c-534c)

The opposed view sees art mainly in terms of the perfection of skills and the essence of art as technique. 'Techne' is, in fact, a central concept for Aristotle's theory of art, which he views as man's 'rational state of capacity to make'.(Nichomachean Ethics, IV, 1140a5) The skills, the technique, the 'art'(in Plato's sense) involved are part of what we generally think of as craft, and so this issue of the role of skills in art seems to be connected with the nature of the distinction between art and craft and the role of the latter in the former. The two views presented exemplify opposing positions concerning this relationship. The view of divine inspiration excludes craft from the realm of art while the techne view reduces art to craft.

The reluctance of contemporary theorists to admit skill into the realm of creativity is, I believe, connected with this Platonic vision of the act of creation as mysterious, inexplicable, and unanticipated. This can, I think, be demonstrated by looking at Collingwood's characterization of art and craft. Collingwood draws a sharp distinction between the two, and sees the essence of art as lying in the way in which it is different from craft. The main characteristics of craft which he outlines are that it involves: 1) a means - end relationship, 2) a distinction between planning and execution, 3) a progression from raw

material to finished product, and 4) an imposition of form upon matter. Art, on the other hand, cannot display any of these characteristics. It does not involve, on the part of the artist, a pre-existing goal or idea which he then consciously works toward by means of his medium, transforming some raw material into a finished work by imposing a form on some pre-existing matter. For Collingwood, the essence of art lies in the fact that the end does not really exist until the work is completed. It involves, essentially, the expression of emotions and this is achieved only in the course of the execution of a work. If this is the case, then the essence of art cannot lie in the perfection of technique. Making something purely technically is a feature of craft and implies a preconceived end, but Collingwood (1974) states that in art:

> the end is not something foreseen and preconceived to which appropriate means can be thought out in the light of our knowledge of its special character. Expression is an activity of which there can be no technique.(p. 111)

This sort of claim about the impossibility of foreknowledge is a fairly common one in art theory (Tomas, 1964, p. 285; Hausman, 1975, pp. 10-11) and has, I think, something in common with the divine inspiration view. The main point of this sort of claim is that creativity necessarily involves spontaneity, imagination, and the generation of novelty but that these are a logical impossibility if the end is conceived beforehand. Thus the creative process retains an element of the unexpected, the

unforeseen, the mysterious.

The basic problem with such a view, however, is that it becomes difficult, if not impossible, to explain how the artist exercises control in creating his work of art. (Maitland, 1976, p. 397) Howard (1982) describes this as the creativity paradox:

> that the artist both knows and does not know what he is up to, that he directs without foresight or preconception.(p. 118)

There have been some attempts to explain how control is possible given this account, but they are, on the whole, unsatisfactory. Collingwood himself asserts that art involves the expression of an emotion, and that the artist does not know what this emotion is until he has expressed it by creating his work of art. Thus he discovers and clarifies his emotions in the course of executing the work, and therein lies the element of control. The weaknesses of Collingwood's view have been pointed out frequently.(Beardsley, 1968, p. 58; Howard, 1982, p. 119) Although creating a work of art may sometimes involve, for the artist, a process of discovering his emotions, there seems no reason to believe that this need always be the case. The artist's emotions may be relatively clear at the outset, and he may not have to discover them. In addition, emotions may simply be irrelevant to the creation of some works. Tomas's view of control as manifested by inspiration 'kicking' the artist through inner twinges seems to be

similarly plagued with difficulties. It does not go very far towards explaining the critical nature of the control and ignores the goal in light of which judgments are made.(Maitland, 1976, p. 399) The failure of these types of theories seems to point to the conclusion that the question of foreknowledge is really a spurious issue. There is a considerable variety of starting points from which an artist may begin a work of art, and no one of them is privileged. He may begin with a well-worked out plan, a definite goal, or a strong, well-defined image; he may begin with only a hazy vision, subtle impression, or inarticulate feeling; or he may begin with hardly any advanced vision but with a desire to experiment in the medium. There seems to be no good reason to deny the status of art to any work because of its mode of inception.

That there can be this range of starting points for works of art seems to indicate that the creative process cannot be characterized by any reference to foreknowledge.(Maitland, 1976; Howard, 1982) The control which is exercised in the process of creating a work of art is a product of a variety of factors including what the artist knows when he begins as well as the state of the work of art at any given moment. Moreover, this control is not rigid and deterministic, but is flexible or plastic, as Briskman (1980) points out:

> Clearly, if the control of either the background or the problem were 'cast-iron' it would be impossible for the creator to loosen their control over his generation and selection of variants. In

> other words, the plasticity of the control is crucial to the possibility of creativity, but so is the control itself.(p. 101)

Where does this discussion leave us with respect to our initial question about the role of skills and of craft in art? It has, I think, been demonstrated that there is little support for a view which would exclude craft from art. There is critical control maintained in the production of a work of art, and skills are involved in exercising this type of judgment. Thus the creativity evident in works of art which conform to existing frameworks certainly involves skill. The question remains, however, as to whether skills might still be inhibiting to innovation.

We come, then, to the second main assumption which underlies the contemporary view that skills and rules are necessarily inhibiting to creativity -- that skills are simply habits. This assumption is based on the idea that skills, once learned, become automatic, operating below the level of consciousness, and fixing pre-determined ways of seeing and behaving. Once in the grip of these unconscious constraints, it is thought that we are no longer aware that they operate nor that our action is rule-bound; thus it becomes extremely difficult, if not impossible, to go beyond the rules and to innovate. Koestler (1964) expresses this point of view:

> The force of habit, the grip of convention, hold us down on the Trivial Plane; we are unaware of our bondage because the bonds are invisible, their restraints acting below the level of awareness.

> They are the collective standards of value, codes of behaviour, matrices with built in axioms which determine the rules of the game, and make most of us run, most of the time, in the grooves of habit -- reducing us to the status of skilled automata which Behaviourism proclaims to be the only condition of man.(p. 363)

In views such as this, skills are seen as identical with habits -- as rigid, unthinking, and inflexible. Indeed, William James (1908) saw such habits as pervading all our behaviour and constituting the mainstay of our activity.

> Habit is thus a second nature ... - at any rate as regards its importance in adult life; for the acquired habits of our training have by that time inhibited or strangled most of the natural impulsive tendencies which were originally there. Ninety-nine hundredths or, possibly, nine hundred and ninety-nine thousandths of our activity is purely automatic and habitual.(p. 64)

This portrayal of skills as habits does not seem to be accurate, however. A number of philosophers, including Ryle, Scheffler, and Howard, have taken great pains to point out how skills and habits differ. If a habit involves the performance of an action blindly, without thought, a true skill can be seen to involve just the opposite. Ryle (1949), for example, states:

> When we describe someone as doing something by pure or blind habit, we mean that he does it automatically and without having to mind what he is doing. He does not exercise care, vigilance, or criticism.(p. 42)

For Ryle, however, care, vigilance, and criticism must be involved in a skill.

> A person's performance is described as careful or skilful if in his operations he is ready to detect and correct lapses, to repeat and improve upon successes, to profit from the examples of others and so forth.(pp. 28-29)

The main point here is that, in terming an action skilled, we are emphasizing just this critical, careful aspect. A skilled performance is one which is not purely automatic and totally inflexible, but is able to adjust to changing circumstances. A habit is acquired deliberately or inadvertently by continual repetition of an action, and may be either desirable or undesirable -- there are good and bad habits. In the case of skill, however, one deliberately sets out to learn, and it is acquired, not through mere repetition, but through training. One can continually improve upon a skill and eventually attain mastery and hence freedom in the sense that what one wants to do one can do. The notions of proficiency or mastery do not apply to habits.

There are, of course, certain habitual elements which constitute a part of most skills. The ability to spell for writing or manual dexterity with scales for playing the piano would be examples. But there is more involved in a skill than such routine and automatic facilities. A skill also involves judgment. It involves applying the ability in a variety of circumstances and making changes when appropriate. A painter is skilful not only in terms of the brush strokes he employs, but also in how he uses them in a specific work -- how he makes adjustments according to the

way the work is progressing. A pianist's skill goes beyond his technical proficiency at the keyboard to involve, as well, his judgments as to tempo or volume.

The distinction between habit and skill is parallelled to some extent by that between drill and training. Drill involves continual repetition and what is inculcated by drill will be a habit. A skill, on the other hand, is learned through training which may contain some elements of drill, but will involve more than this. Training involves the development of critical skill and must involve some degree of understanding. Scheffler (1965) provides an account of skill development which emphasizes this distincion, as follows:

> critical skills call for strategic judgment and cannot be rendered automatic. To construe the learning of chess as a matter of drill would thus be quite wrong-headed in suggesting that the same game be played over and over again, or intimating that going through the motions of playing repeatedly somehow improves one's game. What is rather supposed, at least in the case of chess, is that improvement comes about through development of strategic judgment, which requires that such judgment be allowed opportunity to guide choices in a wide variety of games, with maximal opportunity for evaluating relevant outcomes and reflecting upon alternative principles and strategy in the light of such evaluation.(p. 103)

Howard (1982) goes even farther than this to contend that even drill cannot be construed as mere mindless repetition. He argues that practice of any sort involves an effort to improve according to some standard, and thus some thought and judgment. Of the practice of advanced musicians, for example, he states:

> Rather than mechanically duplicating a passage, one strives for particular goals, say, of fluency, contrast, or balance. Successive repeats reflect a drive toward such goals rather than passive absorption of a sequence of motor acts.(p. 162)

The reason why skills have been assimilated with habits by some theorists seems to be related to the fact that skills, like habits, frequently operate below the level of awareness, Koestler's 'invisible bonds'. This being so, it is assumed that the element of control cannot be present and that skills must be blind and thoughtless. This certainly need not be the case, however. There are many skills which are routine and of which we are not consciously aware, but over which we still exercise control. The skill of driving a car is a good example. Although an experienced driver is not conscious of the skills he uses in manipulating the vehicle through traffic, he is nonetheless fully in control. He makes adjustments according to the changing traffic conditions and is, in fact, in control because of and not despite these skills. Thus the lack of explicit awareness does not seem to preclude the possibility of control.

The skills which are manifested in the arts certainly seem to demonstrate this type of implicit knowledge. As an artist becomes more and more skilled, it is not only his technical expertise, but also his judgments which become assimilated into physical responses, and so, as Gilson (1957) says:

> Man does not think <u>with</u> his hands, but the intellect of a painter certainly thinks <u>in</u> his

> hands, so much so that, in moments of manual inspiration, an artist can sometimes let the hand do its job without bothering too much about what it does.(p. 31)

This does not imply that such skills, which operate to some extent below the level of awareness, are automatic and lacking in judgment, but rather that some judgments can be executed without conscious attention. They are, however, still judgments. Critical skills cannot, however, be totally reduced to routine performances, for they involve making choices according to changing circumstances.

Nonetheless, some aspects of critical skills can be improved with practice, and one can reach the stage where one can accomplish them with speed, accuracy, finesse -- and seeming effortlessness. This is part of what is involved in doing something well. The proficiency in certain more fundamental aspects of a skill is what allows one to achieve higher levels. The mastery of a certain level of skill is what allows one to go on, and the possibilities for further development seem unlimited. Thus new ground is broken in a field by critical judgment, but this judgment is itself based upon a repertoire of acquired and assimilated skills in the discipline.

Perhaps it is now time to return to the original question with which we began, the question of whether or not rules and skills are inhibiting to creativity. We have seen that the acquisition of certain types of skills is often connected with a high level of achievement in a discipline.

Nonetheless it might still be asked whether skills might not, at times, inhibit creativity by fixing a pre-determined way of seeing and operating, and thus limiting the possibilities for innovation. It could be pointed out that even those with a great deal of technical proficiency in an area can and sometimes do perform in a mechanized, unthinking manner. What, then, is the difference between instances where skills manifest creativity and those where they do not? Moreover, it might be claimed that there is a difference between doing something well according to certain rules and going beyond or changing those rules, and that the acquisition of skills is an aid only to the former, but is, in fact, a hindrance to the latter.

These questions have, I believe, been answered in the course of the present examination. With reference to the latter issue, it can, I think, now be recognized that there is not a real discontinuity between achieving highly within the rules of a discipline and achieving highly when it entails going beyond or changing some rules. The latter is, rather, an extension of the former. It would be incorrect to view any discipline or creative activity as taking place within rigid boundaries and being totally delimited and defined by rules. Instead, the possibilities for what can be achieved are really open-ended. Furthermore, one never breaks all the rules, since to do so would be to abandon the discipline. And when a master of a discipline does break some, it is usually because he is at such an advanced stage

in the discipline that he can see the point in doing so. It seems, then, that one difference between creative and uncreative performances might relate to having a real understanding of the discipline in which one is engaged, and knowing what it is about. If, for example, a musician were technically proficient but nonetheless played mechanically, we might suspect that he does not really understand what music is about. The skills in question would be of a rather limited sort, encompassing only technical expertise, but not highly developed judgment. If, however, an artist is highly skilled and at the cutting edge of the discipline and has a real understanding of what the discipline is trying to achieve, then he is in a position to go beyond or change rules if this seems necessary in order to further the ends of the discipline.

Now it is possible that the manner in which skills are taught and learned might make a difference to the creativeness of the outcome. Skills are not mere habits but involve critical judgments applied in a variety of changing circumstances. Thus the teaching of skills as flexible abilities related to ends which may vary might obviate the possibility of rigidity and mechanization.

The point that I want to stress is that learning skills is important for creativity. This is in contrast to the view that skills are mere habits which lock one into an established way of seeing and prevent one from going beyond the rules. First, it seems to be the case that some pure

habits are necessary and vital for creating. Skills such as spelling or manual dexterity at the keyboard are the foundation for more complex skills, and no high level creativity would be possible without them. The second point is that many skills are not reducible to habits, but involve critical judgment and adjustment to changing circumstances. Thus they do not lock one into one way of seeing and are not incompatible with the possibility of changing rules, if necessary. I would further want to claim that one is, in fact, more likely to be in a position to go beyond or change rules, to make a breakthrough and advance a discipline if one is working at an extremely highly skilled level at the peak of the discipline.

References

Aristotle. Nichomachean Ethics. In R. McKeon (ed.), Introduction to Aristotle. New York: Modern Library, 1947.

Beardsley, M. On the creation of art. In L.A. Jacobus (ed.), Aesthetics and the arts. New York: McGraw Hill, 1968.

Briskman, L. Creative product and creative process in science and art. Inquiry, 1980, 23, 83-106.

Collingwood, R.G. The principles of art. London: Oxford University Press, 1974.

Gilson, E. Painting and reality. Princeton: Princeton University Press, 1957.

Hausman, C. Discourse on novelty and creation. The Hague: Martin Nijhoff, 1975.

Howard, V. Artistry: the work of artists. Indianapolis: Hackett Publishing Co., 1982.

James, W. Talks to teachers on psychology. New York: Henry Holt and Co., 1908.

Koestler, A. The act of creation. New York: MacMillan, 1964.

Maitland, J. Creativity. Journal of Aesthetics and Art Criticism. 1976, 34, 397-409.

Plato, Ion. In E. Warmington and P. Rouse (eds.), Great dialogues of Plato. New York: Mentor Books, 1956.

Ryle, G. The concept of mind. London: Hutchinson of London, 1949.

Scheffler, I. Conditions of knowledge. Glenview: Scott, Foresman, and Co., 1965.

Tomas, V. Creativity in art. In W.E. Kennick (ed.), Art and philosophy. New York: St. Martin's Press, 1964.